

any use of the terms "reticle", "wafer" or "die" in this text should be considered as being replaced by the more general terms "mask", "substrate" and "target portion", respectively.

[0017] In the present document, the terms "radiation" and "beam" are used to encompass all types of electromagnetic radiation, including ultraviolet radiation (e.g. with a wavelength of 365, 248, 193, 157 or 126 nm) and EUV (extreme ultra-violet radiation, e.g. having a wavelength in the range 5-20 nm, particularly 13.5 nm), as well as particle beams, such as ion beams or electron beams.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying schematic drawings in which:

[0019] Figure 1 depicts a lithographic projection apparatus according to an embodiment of the present invention;

[0020] Figure 2A is a schematic illustration of an optical element according to a first embodiment of the present invention;

[0021] Figure 2B is a contour map of reflectivity as a function of Mo interlayer thickness versus Ru capping layer thickness for an optical element of the first embodiment of the present invention;

[0022] Figure 3A is a schematic illustration of an optical element according to a second embodiment;

[0023] Figure 3B is a contour map of reflectivity as a function of C interlayer thickness versus Ru capping layer thickness for an optical element according to the second embodiment of the present invention; and

[0024] Figure 4A is a schematic illustration of an optical element according to a third embodiment; 4B

[0025] Figure 4 is a contour map of reflectivity as a function of C outer interlayer thickness versus Ru capping layer thickness for an optical element according to the third embodiment of the present invention.

[0026] In the Figures, corresponding reference symbols indicate corresponding parts.

DETAILED DESCRIPTION

[0027] Figure 1 schematically depicts a lithographic projection apparatus 1 according to